

### Dosing spoon for microtablets

#### Description

This invention relates to a dosing spoon for microtablets.

The dosing of Multi Unit Dose (MUD) forms is usually performed by capsules. In MUD formulations, the effective component is divided out to many individual drug forms such as, for example, pellets or microtablets.

This has the advantage that, after the drug has been taken, the active substance is uniformly distributed over the whole gastric and intestinal volume and is uniformly released in low local concentrations. The release of active substance can thus be purposefully controlled by retardation or gastric juice resistant formulation. The disadvantage of the traditional MUD forms is the difficult and complicated individual dosing for the patient.

The traditional filling of MUD formulations in hard gelatine capsules does not solve this problem. On the one hand, fixed dose quantities of the active substance are predetermined and on the other hand some patients cannot swallow capsules or only with much difficulty.

By opening the capsules and taking the content, the latter problem can be eluded, however this is a very expensive way to dose, since capsules and the filling and closing of the capsules are relatively expensive at production.

A safe individual dosing is practically not possible by removing and dividing the content of the capsule since the contents of one or of several capsules must be divided up to the required

quantity. However, a patient cannot do this or only with much effort.

A formulation of the drug form as a heap, i.e. as a filling in a container, and the taking as a dose with for example a spoon or a measuring spoon is quite unprecise, in particular for smaller volumes, such as for example those which correspond to usual capsule contents and can be reproduced only with big fluctuations. For usual pellet formulations, there comes as an additional difficulty the fact that, due to the irregularity of the grain sizes due to the production, the fluctuation width is still increased in case of a taking of volume and thus the requirements of the European pharmacopeia of a homogeneity of dosage such as those for tablets cannot be complied with.

Microtablets which have a diameter range of 1,0 to 3,0 mm can be produced relatively simply with an uniform size and a constant active substance content. A very precise individual division of the dose could basically be carried out by counting the microtablets, however this cannot be expected from the patient, in particular when he has to count bigger quantities of microtablets.

A device has now be found with which a precise dosing can be achieved in a simple manner by taking an exact number of microtablets from a storage container.

The object of the invention is a dosing spoon for microtablets for which the lower part (1) of the spoon is made of an even polygone which possesses a border (2) on all sides with exception of one side and whereby the polygone has a number of individual recesses (3) which are formed in such a way that an individual microtablet fits in each individual recess.

The polygone is generally a square in which the two sides which are opposite have the same length (parallelogram). The small angle (4) of the parallelogram is between 45 and 90°. A long side (5) of the parallelogram as well as both smaller sides (6, 7) are provided with a border (2) which somewhat stands over the polygone vertically, i.e. up to 5 mm.

Small hollow cylinders (3) are countersunk into the polygone of the dosing spoon, whereby their diameter and depth is dimensioned in such a manner that a microtablet easily fits in each opening. The diameter of the cylinders is between 1,5 and 4,0 mm. The same is valid for the depth of the cylinders. In special cases, the diameter and depth should be bigger by 0,2 mm than the biggest diagonal of the microtablet for which the dosing spoon should be used. The hollow cylinders are normally placed in such a way that as many holes as possible are placed on 1 cm<sup>2</sup> of the polygone. The total number of the holes corresponds to the quantity of microtablets to be taken. This number is generally from 5 to 100, preferably from 10 to 60.

On the borderless side (8) of the polygone, there is still appropriately a zone without openings (8) which normally has a width up to 1 cm. This zone facilitates the filling of the holes with microtablets, in particular from a container which still contains only small quantities of microtablets.

The spoon handle (10) is preferably provided in the prolongation of the side on the longer border.

The attached drawings show a preferred embodiment of the invention. Fig. 1 is a topview of the dosing spoon from above and fig. 3 shows the spoon from below. Fig. 2 is a cross section

through the spoon in the longitudinal direction and fig. 4 in the transverse direction.

### Claim

A dosing spoon for microtablets for which the lower part (1) of the spoon consists of an even polygone which possesses a border (2) on all sides with exception of one side and whereby the polygone has a number of individual recesses (3) which are formed in such a way that an individual microtablet fits in each individual recess.

### Drawings

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